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INTRODUCTION TO FACT SHEETS FOR CHILDREN WITH SPECIAL NUTRITIONAL  
AND FEEDING NEEDS / 1

Caregivers in residential child care institutions have very important tasks to perform. Among these tasks are the feeding and nutrition education of the residents of the institution. Eating food can be more than just a necessary function for the residents; the process of eating can be a source of pleasure, and an educational tool as well.

When a child has special nutritional or feeding needs, new or different ways have to be found to meet those needs. For example, if a child is handicapped, he may need to have his food prepared or served in a special manner. A child may need to have more, or less, of certain types of foods, for medical reasons. All children need to learn as much as possible about making food choices, so that they will be able to develop independent living skills. Caregivers should help the children in the residential care institution learn about food.

The most important sources of help and information in the residential care institution are the health team members; the physician, dietitian/nutritionist, physical therapist, occupational therapist, speech therapist, nurse/clinician, physician assistant, special education teacher, psychologist, and psychiatrist. These are the other members of the team that care for your residents.

These Fact Sheets have been developed to help caregivers in residential child care institutions better understand the feeding and nutrition problems of their residents. Each Fact Sheet deals with a different segment of the residential population. In some cases, the Fact Sheet will make reference to other Fact Sheets in this series. While these Fact Sheets will not provide all the answers, they are intended to help the caregiver understand the problems; offer some guidance with regard to implementing USDA meal patterns in a manner appropriate to the special nutritional and physical needs of children in the institution; and refer the reader to other, more comprehensive sources of information regarding a particular problem.

Throughout these Fact Sheets, reference will be made to the Menu Planning Guide for School Food Service. This is a U. S. Department of Agriculture, Food and Nutrition Service publication, Program Aid number 1260, published May, 1980. This guide gives requirements for, and many examples of, school lunches and breakfasts.

Developed by:  
Ellen Yanous, M.S., R.D.  
June Barrett, M.Ed., R.D.  
College of Allied Health Sciences  
Department of Community Health Nutrition  
Georgia State University  
Atlanta, Georgia 30303

Funded by Nutrition Education and Training Program, Public Law 95-166. The Nutrition Education and Training Program of the U.S. Department of Agriculture is available to all individuals regardless of race, color, national origin, age, sex or handicap. Persons who believe they may have been denied equal opportunity for participation, may write to the Secretary of Agriculture, Washington, D.C. 20250.

MAR 24 1986

111



## DEVELOPMENTAL DISABILITIES

DEFINITION: DEVELOPMENTAL DISABILITIES ARE PHYSICAL AND MENTAL HANDICAPS THAT OCCUR EARLY IN LIFE AND LIMIT THE AFFECTED INDIVIDUAL'S ABILITY TO FUNCTION.

## IDEAS TO CONSIDER:

Studies have shown that many children who are developmentally delayed do not eat adequate diets, usually because of feeding problems. These children may not get enough variety in food because they are at a developmental stage where they can eat only liquid or pureed foods. Or, they may not get enough food because the eating process is so difficult for them that it tires them out before the meal is over.

There are several developmental milestones in an infant's life. Accomplishment of each stage lays the groundwork for the next stage. Developmentally delayed children go through the same developmental stages as normal children. However, they go through the stages much more slowly, and have a tendency to get "stuck" at a stage. They must be taught and encouraged in order to advance to the next stage. It is important to understand this, because otherwise it is easy to interpret infant behaviors in an older child as a rejection or negative reaction when it is only an uncontrolled muscle response. For example: have you ever tried to spoon cereal into the mouth of a two-month-old baby? The tongue thrust that causes the cereal to be pushed forward is part of a sucking response that is a normal response to any touch on the mouth or lips at 2 months of age. A developmentally delayed child may still have this sucking response, making it difficult to feed him solid food.

Both how the child is to be fed, and the kind and texture of food the child is able to eat, are dependent on the developmental stage of the child. Sucking, the earliest normal stage, enables the baby to get liquid nourishment from bottle or breast. When all responses, even the sucking response, are absent, the child cannot hold liquids or food in his mouth and must be fed through a tube. For further information, there is a Fact Sheet on tube feeding available through USDA.

When the sucking response is present, the child can take liquids, but the other reflexes usually present at the sucking stage interfere with spoon feeding. These include tongue thrust, startle, gagging, and rooting reflexes. These reflexes must be controlled before spoon feeding can be successful. Desensitizing exercises can help teach the child to control reflexes such as these. The first 4 references with this Fact Sheet are manuals that contain much practical information, including some exercises to help the child learn to control these reflexes. There are also 2 Fact Sheets available through USDA, one dealing with menu items to use when the child is first learning to take food from a spoon and swallow; and the other dealing with menu items to use when the child is learning to chew. They are entitled "Fact Sheet for Swallowing Program" and "Fact Sheet for Chewing Program."

## FACTORS TO IMPLEMENT:

Positioning the child appropriately is one of the most important preparations for feeding the child. A child should never be fed while flat on his back. An appropriate sitting position can make the difference between success and failure in a feeding program. A child cannot use his tongue or swallow properly if his head is tilted back with relation to his body. An infant seat, high chair, arm chair, or wheelchair may be used, with the child propped with pillows if necessary. The most important thing is that the child's head be in a straight line with his body, and angled slightly forward. If the child is sitting upright, it is very important that his feet do not dangle, but are supported in some firm manner. The physical therapist and occupational therapist are the best source of help for positioning advice. Ask them for help.

When working with a child, consistency is important. The child has a lot to learn when being trained to eat, and it will be easier for him if each caregiver approaches the task in the same manner. This way the child can concentrate on learning the feeding skill without being confused by different approaches used by different caregivers.

Feeding the developmentally delayed child should not be approached in an abrupt manner. Many developmentally delayed children retain the startle reflex that is normal in newborns, and any abrupt action or sudden noise can trigger this reflex, causing the child to stiffen, arch his back, and/or make facial grimaces. When this occurs, it is involuntary on the part of the child, and is not a reaction to the spoon or the food. If this startle reflex is triggered, the caregiver should wait for the child to relax, then begin again.

If a developmentally delayed child can advance in feeding; that is, if he can learn to eat solid foods, or possibly even feed himself; then it is important that he be given the opportunity to do so. If he can learn to handle various textures, it will be easier to feed him, and he will have a better chance to get a balanced diet. Feeding education programs have been developed by the nutrition department at the University of Tennessee, and the manual, Program for Feeding Training of Developmentally Delayed Children (reference no. 2), contains practical information about how to train these children to eat pureed, semi-solid and solid foods. Training for finger feeding and spoon feeding is also presented. This manual is recommended for use in feeding training. The "Fact Sheet for Swallowing Program" and "Fact Sheet for Chewing Program" will help you with food choices for children who are being trained to eat. These Fact Sheets are also available through USDA.

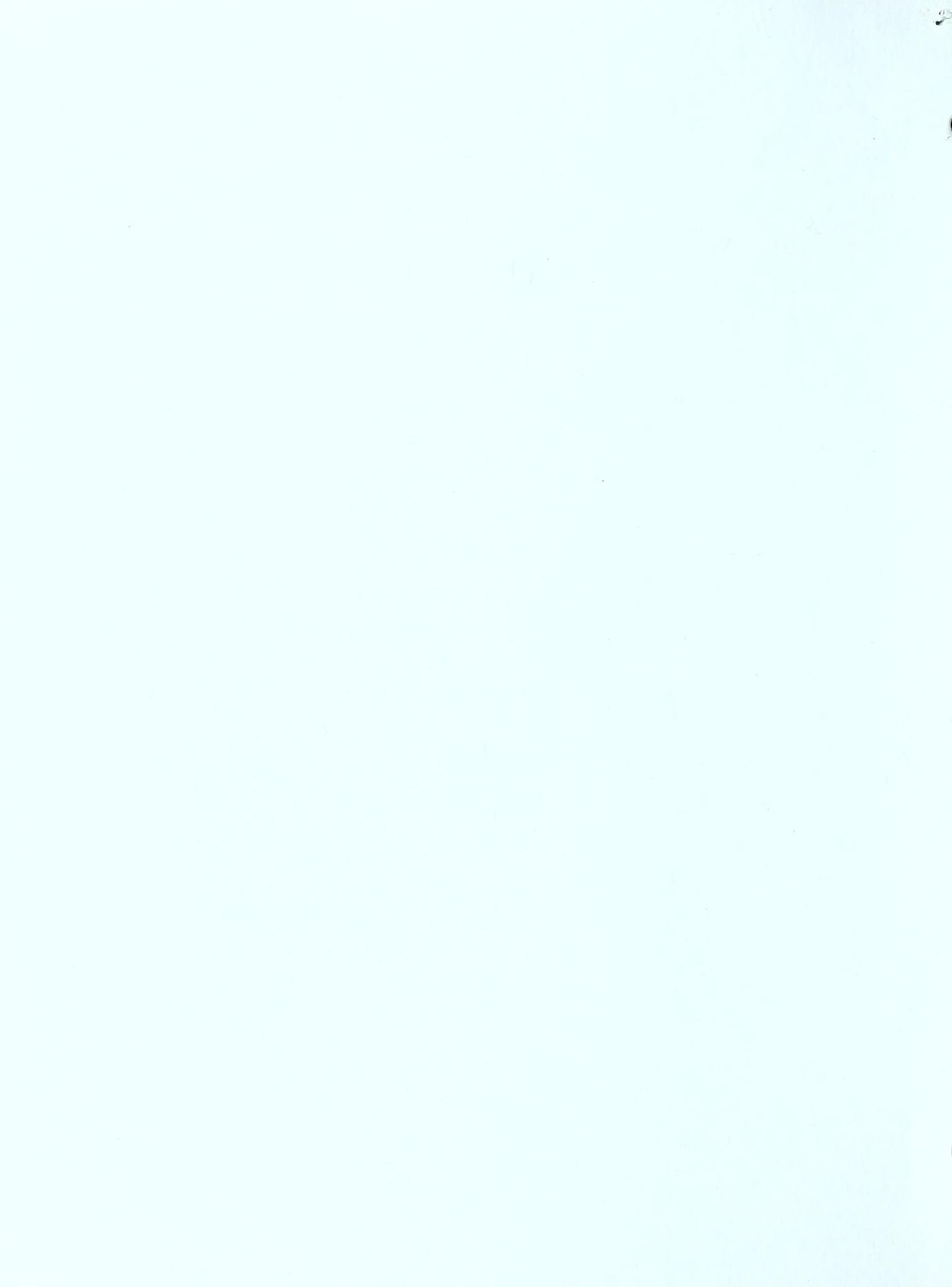
Finger feeding is a normal developmental stage, but there is evidence that if a developmentally delayed child remains at the finger feeding stage for very long, pica can result. Pica is the eating of non-edible items; for example: cigarette butts, paint or lint found on the floor. Caregivers are encouraged to begin to advance the child to spoon feeding training as soon as the child is successful with finger feeding. If you are interested in more information on this subject, please see reference no. 24.

## REFERENCES ON DEVELOPMENTAL DISABILITIES:

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DEVELOPMENTAL DISABILITIES  
(SWALLOWING)

FACT SHEET FOR SWALLOWING PROGRAM (TO BE USED WITH FACT SHEET AND REFERENCE SHEET ON DEVELOPMENTAL DISABILITIES)

DEFINITION: A DEVELOPMENTALLY DELAYED INDIVIDUAL WHO IS AT THIS DEVELOPMENTAL STAGE IS GETTING AT LEAST SOME OF HIS NOURISHMENT ORALLY, IN THE FORM OF LIQUIDS AND PUREED (STRAINED) FOODS.

IDEAS TO CONSIDER:

Food preferences and dislikes need to be documented and considered.

If a sucking reflex is strong, the child will have trouble bringing his lips together, and he will thrust his tongue out when food enters the mouth. He may also attempt to swallow with his mouth open. The sucking reflex is triggered by any touch to the mouth, lip, cheek, or palm of the hand.

Other reflexes that interfere with feeding are: the rooting reflex, which causes the head to turn in the direction of any touch on cheek or lips; and the gag reflex, which may be hyperactive, and is triggered by anything new or different in the taste or texture of the food being offered. These reflexes are involuntary, and do not indicate that the child does not like the food.

FACTORS TO IMPLEMENT:

To successfully take food from a spoon, the tongue thrust, rooting, and gag reflexes must be controlled. Some methods that can be used are outlined here. For more complete and detailed information, please refer to references 1-4. The Program for Feeding Training of Developmentally Delayed Children is especially useful in its approach.

Rooting reflex: Be aware that the head-turning is just a reflex and not a rejection of the food or the feeder. If you happen to stimulate the reflex, just pause for a moment and wait for the child to turn his head back.

Tongue thrust: Placing food to the side of the mouth can help. Try placing the food in the center of the tongue and pressing down gently with the bowl of the spoon. There are specific exercises that can be performed to help eliminate this reflex. The speech therapist, occupational therapist, and physical therapist can help design and institute these exercises.

Gag reflex: This is a protective reflex and may be overactive in a developmentally delayed person. Since it will be triggered by any new taste or texture, new foods need to be introduced one at a time. Remember: gagging is not the same as choking. A certain amount of gagging will occur as the child progresses to a greater variety of foods. When offering new foods to the child, begin by keeping the texture the same (pureed or strained) and increase the variety of foods, one food at a time.

DEVELOPMENTAL DISABILITIES  
(SWALLOWING)

After the variety of pureed foods the child can swallow has been increased, then begin to add texture, one new food at a time. Steps for increasing texture are:

1. Thicker purees to finely mashed cooked fruits and vegetables
2. Solids that dissolve in the mouth; e.g., teething biscuit
3. Finely chopped cooked starches, vegetables, and fruits

Multitextured foods such as vegetable soup and fruited gelatin, are very difficult for a child at this developmental stage, and should not be used. Please refer to the chart on the next page for more information regarding food choices.

Stroking the child's throat can help him to swallow.

DEVELOPMENTAL DISABILITIES  
 (SWALLOWING)

## WAYS TO MODIFY MEALS:

USDA SCHOOL FOOD SERVICE	BEGIN WITH:	ADD ONE OF THESE FOODS AT A TIME	
FOOD GROUP	PUREED FOODS	SOLIDS THAT DISSOLVE EASILY	INCREASED TEXTURE FOODS
MEATS/MEAT ALTERNATES	baby food meats blenderized meats  egg yolk	peanut butter	scrambled egg melted cheese (used for macaroni & cheese)
BREADS/BREAD ALTERNATES	cream of wheat cream of rice	arrowroot cookie saltine cracker teething biscuit	chopped noodles chopped macaroni cooked oatmeal cooked grits
VEGETABLES	whipped potato baby food or pureed vegetables		chopped carrots, beets, spinach
FRUITS	baby food or pureed fruit		chopped stewed apples, chopped canned peaches or pears, chopped or mashed banana
MILK	milk		
OTHER FOODS	plain pudding (different flavors) plain gelatin (different flavors) plain custard vanilla ice cream margarine as needed	tapioca pudding  vanilla wafers	bread pudding (no raisins or coconut) graham crackers bacon

MEALTIME TIPS: Foods that are properly seasoned; that is, salted and/or buttered if appropriate, or seasoned with herbs or spices, will increase eating pleasure and can help the swallowing process. Also foods that are distinct and appropriate temperatures, i.e., hot soup, hot vegetables, chilled puddings, chilled milk; can help the eating and swallowing process.



DEVELOPMENTAL DISABILITIES  
(CHEWING)

FACT SHEET FOR CHEWING PROGRAM (TO BE USED WITH FACT SHEET AND REFERENCE SHEET ON DEVELOPMENTAL DISABILITIES)

**DEFINITION:** A DEVELOPMENTALLY DELAYED INDIVIDUAL WHO IS AT THIS DEVELOPMENTAL STAGE CAN TAKE LIQUIDS AND PUREED FOODS WITH LITTLE TROUBLE, BUT NEEDS TO BE TAUGHT TO CHEW.

**IDEAS TO CONSIDER:**

Food preferences and dislikes need to be documented and considered.

The reflexes that are the most troublesome at this stage are the gag reflex and the bite reflex. Either of these can be triggered when a spoon enters the mouth.

Gag reflex: This is a protective reflex and may be overactive in a developmentally delayed person. Since it will be triggered by any new taste or texture, new foods need to be introduced one at a time. Remember: gagging is not the same as choking. Some gagging will probably occur as the child progresses to a greater variety of foods.

Bite reflex: This reflex is related to the biting pattern that normal children go through at 6 months to 1 year, and is sometimes found to emerge in a developmentally delayed person as other reflexes are decreasing in intensity. It is involuntary, and is not being done just to aggravate the caregiver.

**FACTORS TO IMPLEMENT:**

To avoid stimulating bite reflex, do not put the entire bowl of the spoon all the way into the child's mouth. Also, it is best to not rake the food off the spoon against the child's teeth. A good feeding method is to place the tip of the spoon, containing food, on the tongue, press down, and encourage the child to close his lips over the spoon to remove the food.

When beginning to teach chewing, choose foods with which the child is familiar and likes. Solids which dissolve (vanilla wafers and crackers) are easily chewed. For specifics on chewing training, refer to Program For Feeding Training of Developmentally Delayed Children.

Advance the texture of the foods, as the child begins to acquire the chewing motion.

Placing food to alternate sides of the mouth can help exercise the chewing motion.

If the child tires before the meal is over, consider feeding him with smaller, more frequent meals.

Please refer to the guide on the back of this sheet for adding more texture to meals as the child acquires the ability to chew.

DEVELOPMENTAL DISABILITIES  
(CHEWING)

## WAYS TO MODIFY MEALS:

ADD ONE OF THESE FOODS AT A TIME

FOOD GROUP	BEGIN HERE:	MULTITEXTURED FOODS	VERY CHEWY AND RAW FOODS
MEATS/MEAT ALTERNATES	baby food meats, scrambled egg, peanut butter, melted cheese (as in macaroni & cheese)	creamed meat and fish casseroles cottage cheese soups	pieces of hot dog, chicken, pork, beef, ham, veal, etc., cheddar cheeses
BREADS/BREAD ALTERNATES	cream of wheat, cookies, crackers, chopped noodles and macaroni; cooked oatmeal and grits, toast, teething biscuits.	escaloped potato, bread, roll, cornbread	bagel dry cereal
VEGETABLES/FRUITS	whipped potato any of the following chopped: beets, carrots, spinach, canned apples, pears, or peaches; banana	soups other cooked vegetables other cooked or canned fruits	raw vegetables as carrot, celery, lettuce, tomato, etc. raw fruits as apple, peach, orange, grapefruit, melon, pineapple, berries, etc.
MILK	milk		
OTHER FOODS	plain pudding, plain gelatins, plain custards, vanilla ice cream, plain yogurt, vanilla wafers, graham crackers bacon margarine as needed	fruited gelatins, rice pudding, fruited yogurt fruited ice cream	oatmeal cookies, raisin cookies  salad dressings

MEALTIME TIPS: Foods that are properly seasoned; that is, salted and/or buttered if appropriate, or seasoned with herbs or spices, will increase eating pleasure and can help the swallowing process. Also, foods that are distinct and appropriate temperatures, i.e., hot soup, hot vegetables, chilled puddings, chilled milk; can help the eating and swallowing process.

## BLINDNESS

DEFINITION: BLINDNESS IS THE CONDITION THAT EXISTS WHEN VISION, WITH CORRECTIVE LENSES, IS FOUND TO BE 20/200 OR LESS: OR IF THE VISUAL FIELD IS RESTRICTED TO LESS THAN 20 DEGREES, AS IN SEVERE TUNNEL VISION.

### IDEAS TO CONSIDER:

Persons who are blind are denied the visual route to learning, and must rely on other senses to learn about their environment.

Blind persons have a harder time learning to feed themselves because they cannot see the relationships of space between the plate, cup, spoon, and themselves.

If blindness is combined with developmental disabilities, then the caregiver will need to be aware of the possible existence of the startle reflex in the handicapped person. The startle reflex will cause the handicapped person to stiffen, grimace, and draw back. The startle reflex is easily triggered in a blind developmentally disabled person, because the person cannot see you as you approach, or see other activities that may produce sudden noises or touches.

### FACTORS TO IMPLEMENT:

Make sure it is as quiet as possible during the mealtime. Since the blind person gets a great deal of his information by hearing, it is important that noise in the area is as low as possible, so he can concentrate on learning how to eat.

Feeder-caregivers should not talk to one another while they are feeding the blind resident. The caregiver should be able to attend to the person he or she is feeding, describing the food and the feeding process so the blind person can learn.

Self-feeding, if physically possible, can help the blind person increase his sense of independence and self-worth. The use of a compartmented dish that is stationary on the table can help when the blind person first begins to feel out the relationships between the food placement, the spoon, and his mouth. If the person becomes skilled at feeding himself using this dish, he could then be advanced to a regular plate. He would then be able to feed himself when away from the institution. The feeding activities of chewing and swallowing can be taught to a blind child using the same techniques outlined in the "Fact Sheets on Developmental Disabilities" and "Fact Sheet for Chewing Program" available through USDA. Since the blind child cannot see to imitate feeding activities, they must be taught to the child one at a time. The pamphlet The Preschool Deaf Blind Child: Suggestions for Parents can also help. See reference no. 2.

DEVELOPMENTAL DISABILITIES  
(BLINDNESS)

## MEALTIME TIPS:

Using the same utensils and drinking cups for each meal can help the blind person to learn self-feeding. The feel of the utensils and the weight of the drinking cup full and empty will become familiar and can give the blind person more confidence while learning to feed himself.

The food should be appetizing to smell and taste. If foods have been cooked together so that their flavors mingle, it will be more difficult for the blind person to learn about those foods.

Hot food should not be hot enough to burn the fingers; the blind person can touch the food both to learn where it is relative to his body; and to determine if the temperature is acceptable for putting the food in his mouth.

## NUTRITION EDUCATION IDEAS:

Talking about the individual foods while the blind person is eating them can teach him/her a great deal about nutrition. This needs to be done in a consistent manner, perhaps from a lesson plan, so that learning can be reinforced, and so that the person being instructed is not confused by many different things being said about the same food.

Tasting sessions designed to instruct the blind person about a specific nutrient can be educational.

## REFERENCES:

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3. Rice Council of America: Easy and Thrifty Recipes for 2, Louisville, KY: American Printing House for the Blind. (Rice Council of America, P. O. Box 22802, 3917 Richmond Ave., Houston, TX 77027. Ask for either the Braille Edition or the Large Print Edition.)

DEVELOPMENTAL DISABILITIES  
(DEAFNESS)

## DEAFNESS

DEFINITION: DEAFNESS IS THE INABILITY TO HEAR EITHER ENOUGH SOUND OR CLEARLY ENOUGH TO UNDERSTAND IT. IF DEAFNESS IS PROFOUND (COMPLETE) THE AFFECTED INDIVIDUAL CAN HEAR NO SOUND AT ALL. IF DEAFNESS IS SEVERE BUT NOT COMPLETE, THE INDIVIDUAL CAN HEAR SOME NOISE, BUT CANNOT GAIN ANY INFORMATION FROM IT EITHER BECAUSE IT IS DISTORTED OR BECAUSE HE CANNOT HEAR ENOUGH OF THE SOUND.

## IDEAS TO CONSIDER:

Persons who are deaf will be learning via the visual route. Everything they see will make some impression. Hearing persons respond to "body language," and deaf persons may be even more influenced by it.

It is generally accepted that deaf persons are more isolated from persons around them than are other handicapped persons. This isolation could make learning more difficult for them.

Some studies have shown that deaf individuals are less active than hearing children of the same age. These less active individuals would require fewer calories than other more active individuals.

Deafness is frequently associated with other handicaps; in fact, the only handicap more frequently associated with other handicaps is mental retardation.

## FACTORS TO IMPLEMENT:

The caregiver who is feeding the deaf resident should give his or her entire attention to the task. The expression on the caregiver's face, the roughness of care with which the caregiver touches and/or feeds the resident, and the way the caregiver moves his or her body communicate information to the deaf person.

Meals for the deaf person should be as similar to those of the other residents as possible. A constant difference between what the deaf person is fed and what he sees others being fed, can reinforce the sense of isolation or frustration that the deaf person may have.

## MEALTIME TIPS:

Foods should be served attractively, since the sight of the tray of food is the first impression the deaf person will get of his meal. He cannot be prepared for his meal by hearing someone describe a "great dinner" as is sometimes done to prepare others for a meal.

The foods should be appetizing to sight, smell, and taste. If foods have been cooked together so that their flavors mingle, it is difficult for anyone to learn about the individual taste of a food.

DEVELOPMENTAL DISABILITIES  
(DEAFNESS)

## NUTRITION EDUCATION IDEAS:

Pictures are a major means of communication with a deaf person. Pictures showing foods which contribute a certain nutrient; for example, milk supplies the nutrient calcium; and showing how the nutrient contributes to good health, for example, a smiling face with sparkling teeth; can visually display the relationship between nutritious foods and good health. Another example would be a picture of a nutritious meal of the Basic 4 Food Groups, and a runner winning a race; compared to a picture of low-nutrient foods such as soda and a candy bar, with a runner who has dropped out of the race, exhausted.

## REFERENCES:

- Sabry, J. H. and Kerr, M. G., "Dietary Intakes of a Group of Deaf Adolescents," Journal of the Canadian Dietetic Association 40, Oct 1979, p. 296.
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DEVELOPMENTAL DISABILITIES  
(TUBE FEEDING)

## TUBE FEEDING

When a severely handicapped person has a normal gastrointestinal tract but cannot swallow at all, or cannot hold any food or liquid in his mouth, then this individual must be fed by tube. Oral exercises and pre-sucking training should also be done in an attempt to advance the person to oral feeding.

## IDEAS TO CONSIDER:

When a person is fed through a tube, the feedings take the place of the food the person normally would eat. This means that all his nutritional needs: calories, vitamins, minerals, protein, and essential fatty acids must be present in the tube feeding liquid.

The tube feeding liquid must be free of lumps, and must not have a high degree of "stickiness," or it will clog the tube.

The tube feeding liquid may be commercially purchased, or it may be prepared in the residential care facility. The advantages of a commercial preparation are: it is sterile, so it can be stored until it is needed; it does not require labor for preparation; it has known amounts of nutrients per container, and lists them on the label; and its cost is easily determined.

Medical problems of the tube-fed resident may dictate the type of tube feeding used. If the patient has a fat intolerance, the feeding needs to be either low in fat, or composed of a kind of fat the patient can tolerate. Lactose intolerance will necessitate a lactose-free feeding. The physician should prescribe the tube feeding which will best meet the patient's needs.

A person who is being fed through a tube will need to be fed several times a day in order to receive enough calories and other nutrients. The physician should prescribe the number of feedings and the quantity of each feeding.

Liquids other than tube feeding formula and water should not be put into the tube unless ordered by the physician. Many liquids (buttermilk or juice, for example) can clog the tube.

## FACTORS TO IMPLEMENT:

Staff inservice sessions explaining proper tube feeding techniques and sanitation should be held regularly. These sessions can be initiated by the dietitian and/or nurse, and should teach the importance of sanitary handling of the tube feeding, how to check tube placement, how to rinse the tube after putting the feeding through it, and how to prepare the patient for the feeding.

The patient should not be fed while he is lying flat on his back. If he cannot sit or be propped up, then the head of his bed should be elevated approximately 30 degrees during the feeding and for about one-half hour after the feeding is completed.

FACTORS TO IMPLEMENT: (CONTINUED)

Tube placement needs to be checked before each feeding, to be sure the end of the tube is still in the stomach.

The feeding should not be "dumped" in, but should be put through the tube at a reasonable rate, so that the patient doesn't get stomach cramps or diarrhea from "eating too fast."

EDUCATION:

If there is any possibility that the tube-fed patient can learn to control his mouth and tongue muscles enough to be fed orally, begin to exercise those muscles. Pre-sucking exercises can be found in the manuals Program for Feeding Training of Developmentally Delayed Children, reference no. 1 and Feeding the Child with a Handicap, reference no. 2.

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## FOOD ALLERGY

DEFINITION: FOOD ALLERGY IS A HYPERSENSITIVITY TO A SPECIFIC FOOD OR FOODS NORMALLY FOUND IN THE DIET. THE HYPERSENSITIVITY IS CHARACTERIZED BY ANY NUMBER OF DIFFERENT SYMPTOMS, INCLUDING WHEEZING, HIVES, OR TISSUE SWELLING.

## IDEAS TO CONSIDER:

Food allergy is relatively uncommon, and the symptoms produced by food allergy can also be produced by other types of allergies as well as by infectious diseases and nervous conditions. The diagnosis of food allergy should be made by a physician.

If a person is severely allergic to a specific food, even tiny amounts of that food can cause symptoms. When a person is less severely allergic to a food, he can eat small amounts of the offending food without causing symptoms; in this case, only larger quantities of the offending food will cause reactions. It is important to know the severity of the allergy so that the diet is not restricted more than is necessary.

It is possible to be allergic to a food that has never been eaten by the allergic person. This is because there are families of foods that are related to one another. For example, a person allergic to peanuts may also be allergic to other legumes such as soybeans.

When people are allergic, they frequently have multiple allergies, one of which can affect another. For example, a person with hay fever may have an allergic reaction to a certain food during the hay fever season, and be able to eat that food without symptoms during other seasons. This is because the person is only mildly allergic to the offending food, but is hypersensitive to any allergen during his high-allergy time (hay fever season).

Testing for food allergies is more difficult than testing for other allergies. Skin testing, which works well for allergies such as dust, pollen, bee stings, or pet hair, does not usually work for food allergies. There are many reasons for this. Foods are complex, and test extracts prepared from the food may not contain the offending factor. Sometimes the patient is allergic to what is left of the food after it is digested, and not to the whole food itself. Or, he may be allergic to a contaminant or additive in the food, instead of the food itself. Allergy elimination diets are sometimes used to diagnose food allergies. These diets consist of a few low-allergy foods, to which other foods are then added, one at a time over a period of days, to see which food(s) cause the allergy.

Certain conditions involving foods are not allergies, although the offending food causes symptoms. These are called food intolerances, and involve a lack of certain digestive enzymes. For example, when a person lacks the digestive enzyme lactase, he cannot digest lactose, the sugar in milk. When a lactase-deficient person drinks a glass of milk, he will have some unpleasant symptoms, including gas and/or diarrhea. People who lack the digestive enzyme for gluten must avoid wheat and rye, which contain gluten. From the point of view of diet, food intolerances are treated in the same way as food allergies; that is, avoidance of the offending food(s).

## FACTORS TO IMPLEMENT:

The treatment for both food allergy and food intolerance is removal of the offending food from the diet. First, the diagnosis of food allergy or intolerance must be made by a physician. The physician will document foods that must be avoided and list acceptable substitute foods. When preparing meals for these children, use the list provided for each allergic child, to select his/her menu substitutes.

When the offending food is an item such as tomato, cocoa, fish, or orange, it is fairly easy to eliminate it from the child's menu and find a substitute from the same food group. If the offending food is egg, milk, or wheat, then elimination of the item from the menu becomes a more difficult task, because these items are ingredients in many foods. Wheat-free, egg-free, and milk-free recipes become necessary in order to provide these allergic individuals with a varied and nutritious diet. Some recipe sources are listed in the references.

If the food allergy is severe, the allergic person will have an immediate reaction to the offending food. In some cases, even the smell of the food can cause symptoms. In these cases, extreme caution must be used when preparing this person's food. You must read all ingredient labels, and be alert for any possible inclusion of the offending food. For example, with an egg allergy, it is not always easy to identify items that have egg in them. Mayonnaise contains eggs, but ingredient listing is not required for mayonnaise. Sometimes rolls or pretzels are brushed with egg white for glazing purposes, and that may not be stated on the ingredient label. If you have concerns in these areas, write to the food companies from whom you purchase your food items, and ask them about specific ingredients or additives.

If the food allergy is moderate, the allergic person may be able to tolerate small quantities of the offending food in a mixed dish or baked item, even though he would get symptoms from a larger dose of the food item. An example of this is milk. Some people allergic to milk can tolerate milk in baked items even though they cannot drink it. Ask the physician to determine, if possible, whether the allergy is severe or moderate.

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3. Recipes for Allergy Diets. (Available from Good Housekeeping magazine, 959 Eighth Avenue, New York, N. Y. 10019.)

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### HYPERKINESIS (HYPERACTIVITY)

DEFINITION: HYPERKINESIS IS A CONDITION CHARACTERIZED IN THE AFFECTED INDIVIDUAL BY SHORT ATTENTION SPAN, RESTLESSNESS, IRRITABILITY, AND LACK OF ABILITY TO CONTROL BEHAVIOR RANGING FROM DISRUPTIVE TO VIOLENT.

#### IDEAS TO CONSIDER:

Hyperkineses is a diagnosis that is made by a physician. This is a physical condition, as evidenced by the fact that stimulant drugs will act to calm a hyperkinetic individual. Not all extremely active children are "clinically hyperactive."

The cause of hyperkineses is not known. In the past, behavior disorders such as hyperkineses were thought to be caused by food allergy. Recently, food intolerance or toxicity has been suspected to be the cause. Two chemicals found in food can be shown to cause allergic reactions in people with multiple allergies; however, the relationship of these two chemicals to hyperactivity is not as clear. These two chemicals are salicylates and tartrazines. Salicylates occur naturally in some foods, and are added to other foods for various reasons. Tartrazines make many food colors, especially yellows.

A special diet, called the K-P Diet, Kaiser-Permanete Diet, or Feingold Diet, is sometimes used in an attempt to improve a hyperkinetic child's behavior and/or learning skills. This diet, and variations of this diet, have been used in many studies to see if diet can improve the hyperkinetic condition. In studies where the child and those around him did not know when he was on the diet, the child usually did not improve. In studies where the child and those around him knew he was on the diet, the child usually improved. Thus, there is no strong evidence that the Feingold Diet alone can help improve the behavior of most hyperkinetic children. However, there is some indication that avoidance of salicylates and tartrazines could help a certain rare type of hyperkinetic child.

The K-P Diet can be planned so that it is a nutritionally adequate diet, if vitamin C supplementation is given.

If you are interested in reading more about research on this diet, please see the references on the back of this sheet.

#### FACTORS TO IMPLEMENT:

If a child in your institution is placed on a hyperkineses diet, the physician ordering the diet should provide a list of forbidden foods. You will need to ask the physician to also provide a list of acceptable foods to substitute, so that you can meet the Guidelines from USDA for reimbursable meals. There is no food group that is eliminated in this diet, however, it is difficult to provide an adequate amount of vitamin C, since most vitamin-C containing foods are on the list of forbidden foods. The child's physician should be made aware of this so vitamin C supplements can be prescribed.

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## OBESITY

DEFINITION: A CHILD IS CONSIDERED OBESE IF HIS OR HER WEIGHT IS 20% OR MORE ABOVE THE WEIGHT EXPECTED FOR THE CHILD'S HEIGHT, SEX, AND AGE.

### IDEAS TO CONSIDER:

An obese child is usually not as active as a normal-weight child. This has been found to be true even when the obese child in question appears to be hyperactive. Most obese children can be shown, over the course of a day, to conserve energy.

A child whose weight is within the normal range for his or her age will still be clinically overweight if this child's height is much less than the average for the child's age. It is important, therefore, to use the child's height, as well as his age and sex, when evaluating weight. Many developmentally delayed children tend to be short in stature for their age.

An obese child must meet his or her nutritional needs for growth and development just as a normal-weight child must. Extra stores of fat do not mean extra stores of protein, vitamins, or minerals.

It is sometimes possible for a child to simply maintain weight instead of losing weight, especially if his or her height is increasing fairly rapidly. This allows the child to "grow into" his or her weight as he or she gets taller. If this approach is feasible, then it is the best approach. This can be done either with a slight caloric restriction, or with an increase of activity on the part of the child, so that weight gain stops.

When a child needs to be on a reduced-calorie diet for purposes of weight reduction, a physician will prescribe the diet. Multi-vitamin supplementation is recommended for children when they are on reducing diets, and these should be prescribed by a physician. For more information on this subject, please refer to reference no. 1.

### FACTORS TO IMPLEMENT:

If a child in your care appears to be gaining too much weight, call this to the attention of the other members of the health care team.

If the child can participate, involve him/her in planning the diet.

When a child must be on a reduced-calorie diet, meal seating should be arranged so that other children with similar diets can sit together. This will minimize situations where food left on another child's plate tempts the child dieter.

The diet should be planned to allow for snacks, if the child has been accustomed to having snacks. Both meals and snacks should be carefully timed to reduce hunger periods for the child.

#### WAYS TO MODIFY MEAL:

When a physician prescribes a reduced calorie diet for a child, the diet should be planned and individualized by a dietitian. If this is not possible, refer to the Diet Manual of the Georgia Dietetic Association, Inc. for quantities of food for each caloric level. (Please see reference no. 4.) Strive to make the diet as "normal" as possible.

Generally speaking, calories can be reduced in cooking by using less fat in food preparation. Eliminate fried foods; cook vegetables in plain salted water without oil, margarine, or fat meat; and eliminate baked and fried desserts, substituting fruit or small amounts of pudding or ice cream. Meats should be baked, broiled, or roasted without added coatings of fat. Low-fat milk, fruit juices, and water should replace all sugar-containing beverages for the child on a weight reduction diet.

#### MEALTIME TIPS:

The child who is on a reduced-calorie diet should have meals as much like those of the other children in his/her feeding group as possible.

Use small dishes, so that the food portion fills the dish.

Serving two half-portions of an allowed food group may be more pleasant for the child. Example: 1/2 slice of bread and 1/4 cup of rice instead of 1/2 cup of rice; or 1/2 peach, sliced, and 6 grapes, instead of 12 grapes.

Use low-calorie foods, that you know the child likes, liberally in the diet. Examples of these might be tomato wedges, carrot sticks, cucumber circles, green pepper slices, or celery sticks.

#### NUTRITION EDUCATION IDEAS:

Education ideas need to be appropriate to the learning level of the child in question.

Food preparation/tasting sessions could be educational, and would need to be planned into the child's diet.

If the child can participate in planning his/her diet, he/she can learn about good nutrition and perhaps also feel good about helping achieve his/her own weight loss.

Using food pictures from magazines to make food group or food nutrient posters could be an educational experience.

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## DIABETES MELLITUS

DEFINITION: DIABETES MELLITUS IS A CONDITION CHARACTERIZED BY A RELATIVE OR ABSOLUTE DEFICIENCY OF INSULIN. INSULIN IS NECESSARY FOR THE PROPER UTILIZATION OF FOOD BY THE BODY. A DEFICIENCY OF INSULIN RESULTS IN A HIGH BLOOD SUGAR, AS WELL AS OTHER PROBLEMS.

## IDEAS TO CONSIDER:

When a person has diabetes mellitus, he/she should have a diet prescribed by a physician. The physician's diet order should specify the number of calories in the diet, the amounts of fat, carbohydrate, and protein; and the distribution of the diet; that is, how much of the diet should be given at each meal. For example, a distribution of 3/10, 3/10, 3/10, 1/10 means that 3/10ths of the calories and carbohydrates should be given at each of the three meals, and 1/10th of the calories and carbohydrate should be given as an evening snack. This diet prescription should be translated into food exchanges by a registered dietitian. If the services of a registered dietitian are not available, you can refer to the standard patterns in the diabetes section of the Diet Manual of the Georgia Dietetic Association, Inc. (See reference no. 1.)

When a person has diabetes mellitus, the timing of meals and snacks becomes very important. Diabetes is more easily controlled when the diabetic individual becomes accustomed to having meals and snacks at the same times each day.

When a person with diabetes must take insulin injections to control his diabetes, he is termed insulin-dependent. When an insulin-dependent diabetic engages in strenuous exercise, he may have need for extra food before and during the exercise. The physician, dietitian, and physical therapist should be consulted to determine the food items and the timing of eating, based on the time and extent of the exercise.

It is important to plan menus for persons with diabetes, so that the menus are in keeping with the food preferences of the individuals being served. If an insulin-dependent diabetic does not eat, or delays eating for too long, he may have an "insulin reaction." When a diabetic is having an insulin reaction, he may become shaky, break out in a cold sweat, become very grouchy, slur his speech, or even faint. When this happens, it is because the person's blood sugar is too low (He has too much insulin.), thus the term "insulin reaction" is often used. To stop an insulin reaction, give the diabetic a small amount of sugar-containing liquid such as fruit juice, soda, or even water mixed with a tablespoon of sugar. This needs to be done while the diabetic is still conscious. Then notify the physician immediately.

If a diabetic has a severe deficiency of insulin for a period of time, his blood sugar will be too high, and he will go into a "coma." If a diabetic person will not wake up normally, call the physician immediately.

Even if a person with diabetes mellitus does not require insulin injections, the diet is still very important. It is usually necessary for these diabetics to lose weight; and it is always important for them to avoid sources of concentrated sweets such as honey, sugar, syrup, sodas, and other similar items.

## FACTORS TO IMPLEMENT:

When planning menus for the individual with diabetes, the food used should be the same as those for other residents as much as possible. The chart provided with this Fact Sheet shows how to relate the diabetic exchanges to the USDA food groups used for meal planning. For information on how to plan diabetic diets, please refer to the Diet Manual of the Georgia Dietetic Association, Inc., reference no. 1.

The diabetic diet should be low in sugar and animal fat. Correct use of the diabetic exchange lists will help you achieve this. Remember: frying or seasoning with fat adds calories to the food.

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4. Frank, M. ed., "Nutrition and Young Children," Children in Contemporary Society 12(1), Nov. 1978. (Available from Children in Contemporary Society, P. O. Box 11173, Pittsburgh, Pennsylvania 15237.)
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WAYS TO MODIFY MEALS:

FOOD GROUP	USE	DO NOT USE	SUBSTITUTE WITH AUTHORIZATION FROM USDA
MEATS/MEAT ALTERNATES  (MEAT EXCHANGES)	meats, fish, cheese, eggs, poultry, peanut butter, cottage cheese, cheese alternate	dry beans and peas enriched macaroni products with fortified protein bacon, sausage	
BREADS/BREAD ALTERNATES  (BREAD EXCHANGES)	bread, biscuit, roll muffin, rice, noodles, macaroni, pasta, grits	potato chips or other snack type food	corn, English peas, lima beans, parsnips, cooked dry peas or beans; baked beans
VEGETABLES/ FRUITS (separate them*)			
*(VEGETABLE EXCHANGES)	all vegetables as listed in vege- table list, diet manual		
*(FRUIT EXCHANGES)	all fruit as listed in fruit exchange list, diet manual	avocado	
MILK (EXCHANGES)	lowfat white milk, skim milk, butter- milk		
OTHER FOODS (use for FAT EXCHANGES)	fats as listed in fat exchange list, diet manual  free foods as listed, diet manual		

MEALTIME TIPS: Foods that are properly seasoned; that is, salted and/or buttered if appropriate, or seasoned with herbs or spices, will increase eating pleasure. Please refer to the diet manual for seasonings that do not add calories to the food. If margarine is used, it must be counted as a fat exchange.



## VEGETARIANISM

DEFINITION: VEGETARIANISM IS THE CONSUMPTION OF A MEATLESS DIET. THERE ARE TWO MAIN KINDS OF VEGETARIANS: A LACTO-OVO-VEGETARIAN IS A VEGETARIAN WHO, ALTHOUGH HE WILL NOT EAT MEAT, WILL EAT EGGS AND DRINK MILK. A VEGAN IS A VEGETARIAN WHO WILL EAT NO ANIMAL PRODUCTS OF ANY KIND.

### IDEAS TO CONSIDER:

The diet of a lacto-ovo-vegetarian can be as nutritionally adequate as a regular meat-containing diet. In fact, there is evidence this type of diet can be a very healthy diet.

The diet of a vegan may be deficient in zinc and vitamin D and will probably be deficient in vitamin B-12.

Vegetarian diets, especially vegan diets, may be too bulky for small children; that is, the quantity of food the child needs to eat to obtain adequate nutrition may be too large for him to ingest.

In a vegan diet, the protein needed for growth and health is obtained from plant amino acids. Since no single plant provides all the amino acids our body needs to make protein, combinations of plants need to be eaten at each meal. For example, grains need to be eaten with legumes. If all the essential amino acids are not present in the body at the same time, the body cannot make protein from them. This means it is very important to eat the correct vegetable combinations together. For further information on how to combine these plants at a meal, please refer to the book Diet for a Small Planet by Frances Lappe, reference no. 7.

There are 2 ways to obtain authorization to use the proper foods in order to feed vegetarian residents. If the vegetarian diet is authorized by a physician as a medical necessity, the physician's statement together with a list of food substitutes for the meat group and/or the milk group will meet the USDA requirement and the breakfast or lunch will be reimbursable. Also, the Food and Nutrition Service of the USDA can approve on a continuing basis, sound nutritional vegetarian meal patterns for ethnic, religious, economic, or physical reasons.

### FACTORS TO IMPLEMENT:

When you find out a resident is a vegetarian, communicate this to the other health care team members. Find out if the child can drink milk and eat eggs. It is necessary to know this both for meal-planning purposes, and because the vegetarian child who does not include these foods in his diet will be more likely to be at risk nutritionally.

Since the vegetarian diet is bulky, it is important to be sure all foods offered to the child are nutrient carriers. Eliminate all "empty calorie" foods from the diet.

WAYS TO MODIFY MEAL:

The vegetable combinations that need to be served and eaten together in a vegan diet are summarized as follows: (For more information on this, please refer to Diet for a Small Planet, reference no. 7).

Legumes plus grains:	soybeans + rice or wheat mung beans + wheat
Legumes plus seeds:	soybeans + peanuts or sesame seeds peanuts + sunflower seeds

Example: If you use cooked dry beans or peas (legumes) to meet the meat/meat alternate requirement in the Guidelines, then rice served with it as the bread/bread alternate would complement the protein (amino acids) in the legumes by supplying missing amino acids.

For lacto-ovo-vegetarians, milk taken with the meal will complement the proteins in legumes, grains and seeds. As long as the child drinks his milk with the rest of his meal, close attention to vegetable combinations is not needed. Enough variety will be provided by the diet as long as it meets the National School Lunch Program requirements as stated in the Guidelines. (That is, the serving of a meat alternate, bread/bread alternate, fruit/vegetable, and milk are consumed.)

SUGGESTED MEAL PATTERNS FOR LACTO-OVO-VEGETARIANS:

Please use Menu Planning Guide for School Food Service, USDA, FNS Program Aid no. 1260 (May 1980), to help you with portion sizes and to guide in choosing foods from each food group.

	USDA MEAL PATTERN		ADDITIONAL FOODS FOR VEGETARIAN RESIDENT		
	<u>K-3</u>	<u>4-12</u>	<u>K-3</u>	<u>4-12</u>	<u>PREGNANCY</u>
<u>BREAKFAST:</u>					
Milk	8 oz.	8 oz.			4 ounces
Fruit/Vegetable	1/2 cup	1/2 cup			1 serving
Bread/Bread Alt.	1 serv.	1 serv.			1 serving
Meat/Meat Alt.				1 oz. meat alt.	1 oz. meat alt.

<u>LUNCH:</u>					
Milk	8 oz.	8 oz.			
Meat/Meat Alt.	1 1/2 oz.	2 oz.	use equivalent meat alternate		1 oz. meat alt.
*Bread/Bread Alt.	8 servings/week			1/2 serv.	1/2 serv.
Fruit/Vegetable	1/2 cup	3/4 c.	1/4 cup	1/4 cup	1/4 cup
Other Foods					

RECOMMENDED PATTERN FOR VEGETARIAN RESIDENT

	<u>K-3</u>	<u>4-12</u>	<u>PREGNANCY</u>
<u>SUPPER:</u>			
Milk	4 ounces	8 ounces	8 ounces
Meat/Meat Alt.	1 1/2 ounces	2 ounces	3 ounces
Bread/Bread Alt.	1 1/2 serv.	2 serv.	2 serv.
Fruit/Vegetable	3/4 cup	1 cup	1 cup
Other Foods			

<u>SNACK:</u>			
Milk	4 ounces	8 ounces	8 ounces
Fruit/Vegetable	1/2 cup	1/2 cup	1/2 cup
Bread/Bread Alt.	1/2 serv.	1 serv.	1 serv.
Other Foods			

FOR "OTHER FOODS" PLEASE SEE PAGE 38 OF THE MENU PLANNING GUIDE FOR SCHOOL FOOD SERVICE.

\*Schools serving lunch 6 or 7 days per week should increase this quantity for the 5 day period by approximately 20% (1/5th) for each additional day. Also: for each day less than a 5-day week, the school should decrease this quantity by 20% (1/5th).

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ADOLESCENT PREGNANCY (TEENAGE PREGNANCY)

DEFINITION: ADOLESCENT PREGNANCY IS A PREGNANCY THAT BEGINS BEFORE THE MOTHER-TO-BE IS 18 YEARS OLD.

IDEAS TO CONSIDER:

When a girl is less than 18 years old, her body is still growing and maturing. If a girl in this age group becomes pregnant, she then has some special nutritional needs that are greater than those of an older pregnant woman.

Many teenage girls are poorly nourished. Teenagers may not make good food choices because they are influenced by those around them; or because they choose foods for convenience from vending machines (candy, chips or soft drinks). Many teenage girls diet to lose weight or stay slim. Also, many teenagers have never had an opportunity to learn about good nutrition or how to make good food choices.

Almost all teenage girls snack during the day. Many also drink large amounts of caffeine-containing beverages such as coffee or sodas. Caffeine is a stimulant, and many physicians are warning pregnant women to stop using it, or at least decrease the quantity used, while pregnant.

Throughout her pregnancy, a female should gain weight in a certain pattern. During the first 3 months of pregnancy she should gain about 1 pound per month. During the rest of her pregnancy she should gain about 3/4 pound per week. Even if she is already overweight, she needs to gain this weight, so that she can help her baby to grow. Weight reduction diets should not be used until after the girl has delivered her baby.

A young pregnant girl is still growing herself. She needs good nutrition for her baby's growth, and also for her own growth. She will need more calories for energy, more B vitamins to help use the calories, and more calcium and vitamin D for building bones and teeth, than an adult pregnant woman does.

If the pregnant girl is a vegetarian, she can still get enough nutrients if she eats dairy products and eggs. If she does not use dairy products and eggs, her diet will not be adequate in all nutrients, and her doctor will need to know so that supplements can be given. Refer to the "Fact Sheet on Vegetarianism," available through USDA, that tells more about these diets.

It is very difficult to get recommended amounts of iron from food alone, so most doctors prescribe iron supplements for pregnant women.

A pregnant teenage girl may have a very poor self-image. She may not care about her own body. She may want to hide her pregnancy by dieting to stay thin. She may not care about choosing nutritious foods to eat. However, she DOES care about producing a healthy baby.

FACTORS TO IMPLEMENT:

Since pregnant girls want to produce healthy babies, they must learn that choosing and eating nutritious foods will help them to do this. The March of Dimes film "Inside My Mom: Nutrition and Pregnancy" can help teach the role of nutrition in relation to their unborn child.

A way to teach good nutrition, and also serve the girls food they are sure to like, is to have each girl help plan and prepare some of the meals, using their food preferences. The attached reference sheet "WAYS TO MODIFY MEALS FOR PREGNANT TEENAGERS" will help you show the girls how to use their food preferences to plan and/or choose good meals.

Students like classroom learning experiences in which they can participate, instead of just listening to someone talk. These are activities such as making wall charts and bulletin boards; and games like word scramble and crossword puzzles. Some examples are: making a bulletin board of the Basic 4 Food Groups, using food pictures cut from magazines; or having a tasting session, tasting several foods high in a certain nutrient (example - vitamin C) to see which ones each person likes. From this they can learn that good nutrition can taste good, too! For further information about teaching nutrition to pregnant girls, please refer to "Education for School-Age Parenting," reference number 8.

SUBSTITUTING FOR FOOD SOMETIMES REFUSED:

Vegetables: Cooked vegetables that are refused may be eaten if served raw; especially if there is a cheese dip to go with them. Some vegetables that are good eaten raw with a dip are: broccoli, carrots, cauliflower, celery, cucumbers, green peppers, mushrooms, and squash.

If a pregnant teenager will not eat vegetables at all, she can still get nutrients that vegetables provide. She will need to increase her intake of fruits, especially those fruits that are high in vitamin A such as apricots, cherries, peaches, and plums. For further information about including vitamin A fruits in the diet see page 12 of the Menu Planning Guide for School Food Service, USDA, FNS no. 1260.

Milk: Many people find they cannot drink milk because it tends to give them gas or diarrhea. Most of these same people, however, can eat milk-containing products. If a pregnant girl in your institution cannot drink milk, substitution for this required meal component is allowed if a statement from a recognized medical authority is written, specifying the substitutes recommended. Some replacements for the calcium in 8 ounces of milk are: yogurt - 8 ounces; pudding - 8 ounces; ice cream - 12 ounces; custard - 8 ounces.\*

If a pregnant girl cannot eat any of these foods, she will probably need calcium and vitamin D supplements, which should be prescribed by her physician.

\*Calcium values from Nutritive Value of American Foods. Handbook 456.  
U. S. Department of Agriculture, November, 1975.

SUGGESTED MEAL PATTERNS:

Please use Menu Planning Guide for School Food Service, USDA, FNS Program Aid no. 1260 (May 1980), to help you with portion sizes and to guide in choosing foods from each food group.

MEAL	USDA MEAL PATTERN	ADDITIONAL FOODS NEEDED FOR PREGNANT TEENAGER
<b>BREAKFAST:</b>		
Milk (p.20)	1 cup (8 ounces)	1/2 cup (4 ounces)
Fruit/Vegetable (p.17)	1/2 cup	
Bread/Bread Alt. (p.19)	1 serving	1 serving
Meat/Meat Alt. (p.14)	1 ounce (recommended)	1 ounce

<b>LUNCH:</b>		
Milk	1 cup (8 ounces)	1/2 cup (4 ounces)
Meat/Meat Alt. (p.14)	2 ounces	1 ounce
*Bread/Bread Alt. (p.19)	8 servings/5-day week	
Fruit/Vegetable (p.17)	3/4 cup (at least 2 food items)	
Other Foods		1 serving

RECOMMENDED PATTERN FOR PREGNANT TEENAGER

<b>SUPPER:</b>		
Milk	1 cup (8 ounces)	
Meat/Meat Alt. (p.14)	3 ounces	
Bread/Bread Alt. (p.19)	2 servings	
Fruit/Vegetable (p.17)	3/4 cup	
Other Foods	1 serving	

<b>SNACK:</b>		
Milk	8 ounces	
Fruit/Vegetable		
Bread/Bread Alt.		
Other Foods		

FOR "OTHER FOODS" PLEASE SEE PAGE 38 OF THE MENU PLANNING GUIDE FOR SCHOOL FOOD SERVICE.

\*Schools serving lunch 6 or 7 days per week should increase this quantity for the 5-day period by approximately 20% (1/5th) for each additional day. Also: for each day less than a 5-day week the school should decrease this quantity by 20% (1/5th).

*an*

WAYS TO MODIFY MEALS FOR PREGNANT TEENAGERS

SNACKING:

Snacks can contribute needed nutrients to the pregnant girl's diet, and may, in fact, be a necessary part of a pregnant girl's daily food intake. However, snacks can contribute to meeting nutritional needs only if they are nutritious.

Some examples where "low-nutrient" snacks can be replaced with nutritious snacks:

Low Nutrient Snacks

sodas  
chips  
candy

Nutritious Snacks

milkshake or fruit juice  
peanuts or popcorn  
raisins or other fruit

Other examples of good snack choices:

Snack:

hamburger  
taco  
peanut butter sandwich  
cheese and crackers  
pizza

Food Group:

Meat/Meat alternate, and Bread/  
Bread alternate groups

yogurt  
ice cream  
pudding

Other foods (These foods which contain  
milk are good sources of calcium.)

## REFERENCES AND FURTHER INFORMATION:

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